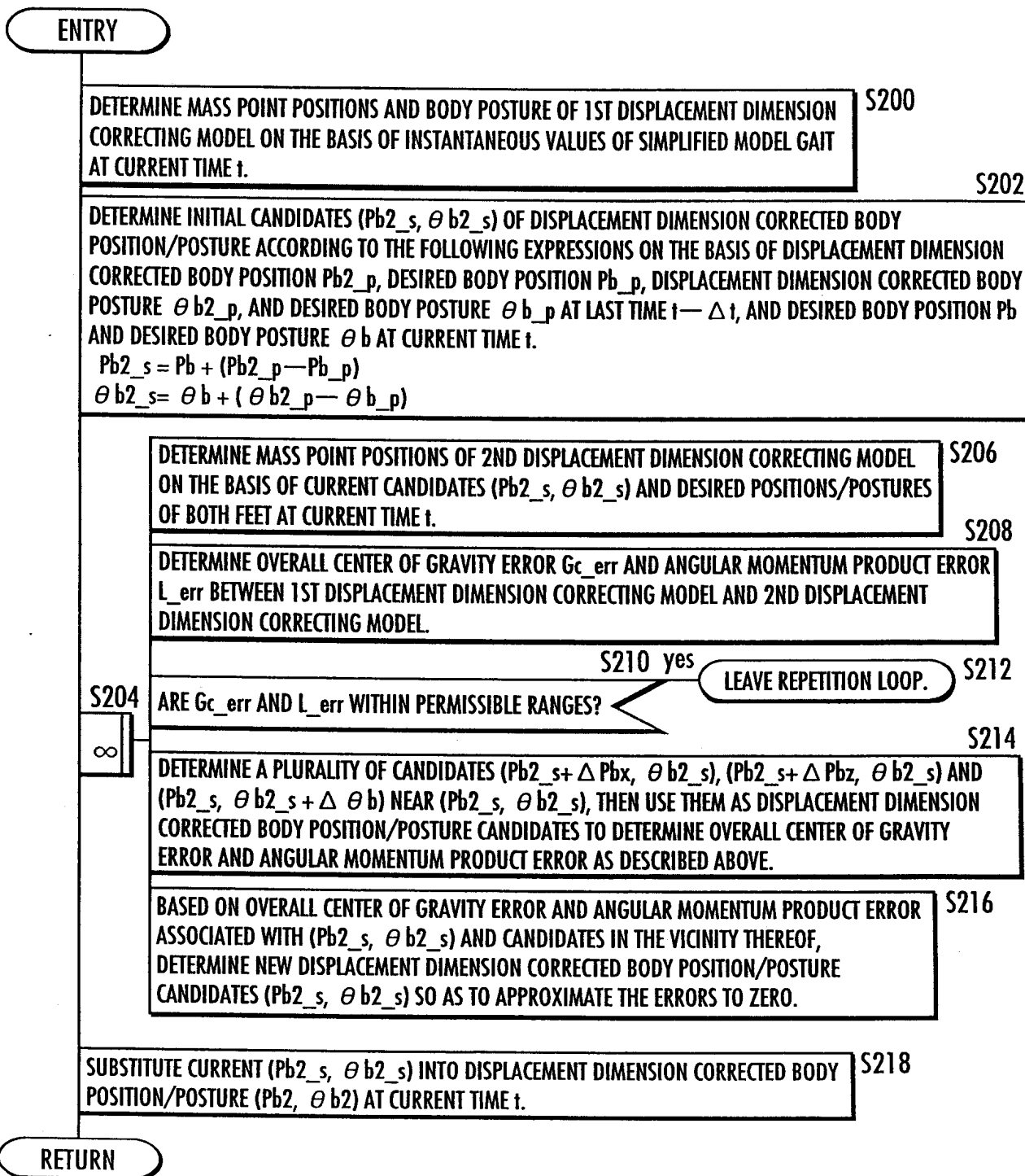


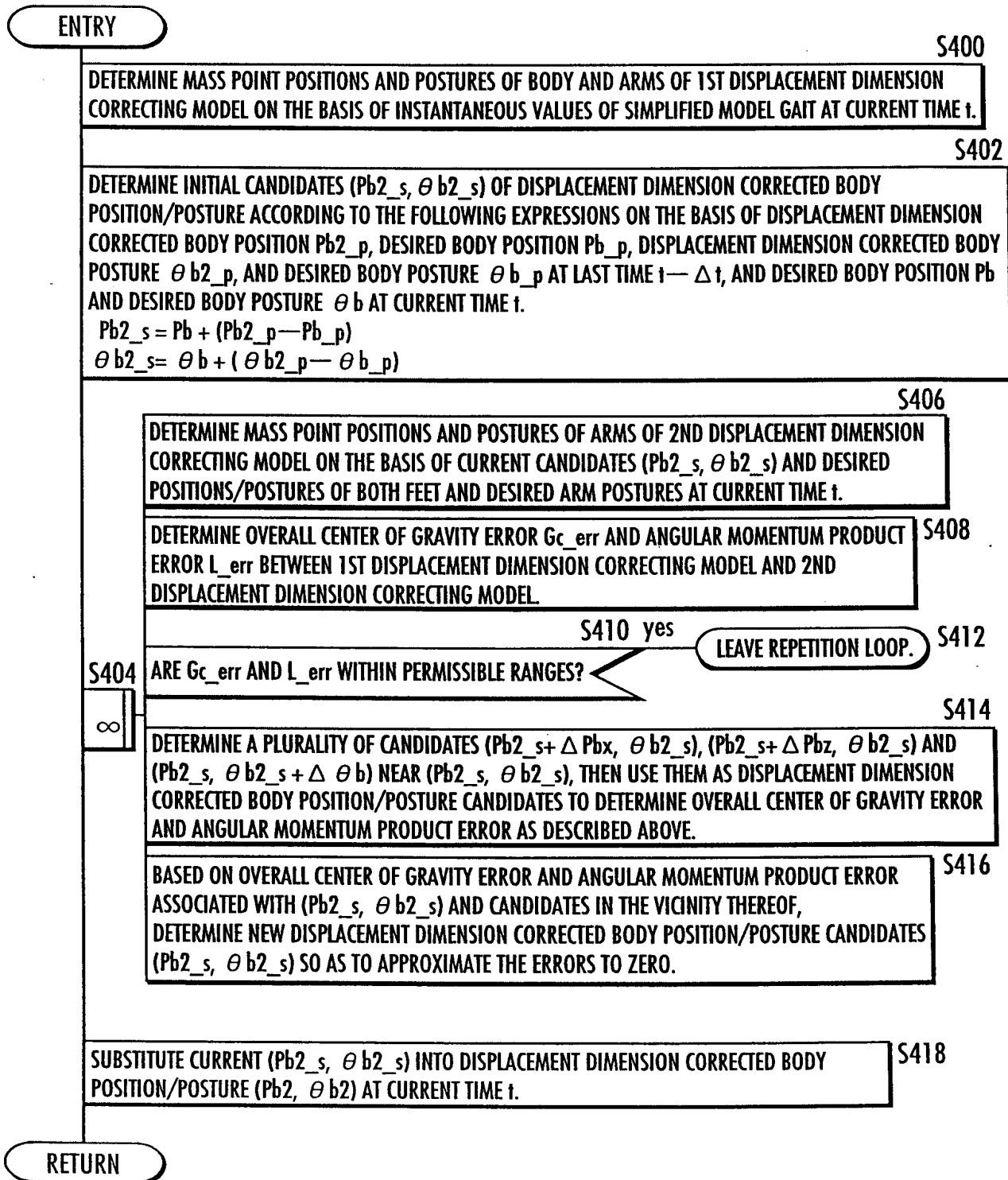
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FIG.10



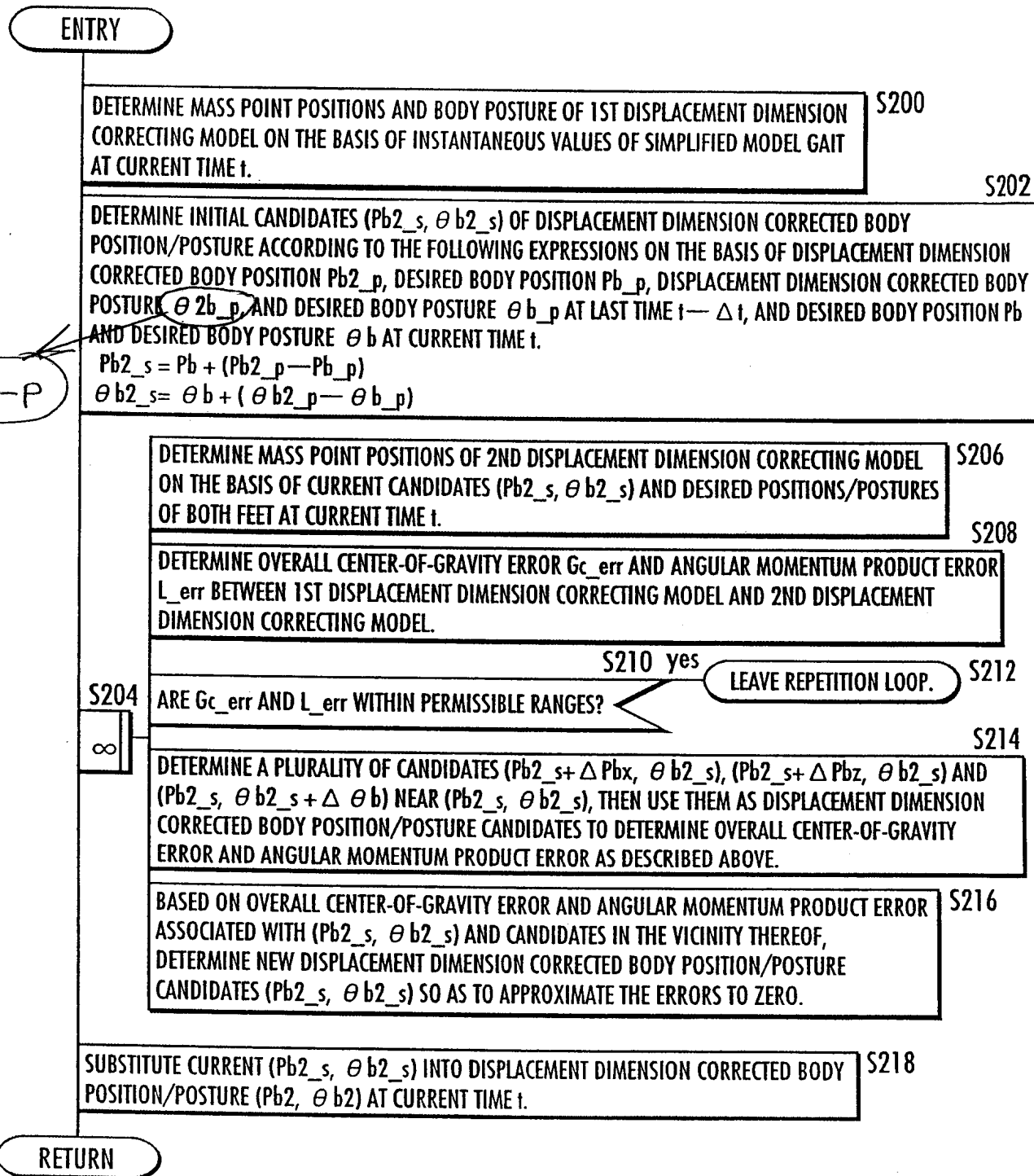
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FIG.23



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FIG.10



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FIG.23

ENTRY

S400

DETERMINE MASS POINT POSITIONS AND POSTURES OF BODY AND ARMS OF 1ST DISPLACEMENT DIMENSION CORRECTING MODEL ON THE BASIS OF INSTANTANEOUS VALUES OF SIMPLIFIED MODEL GAIT AT CURRENT TIME t .

S402

DETERMINE INITIAL CANDIDATES ($Pb2_s$, $\theta b2_s$) OF DISPLACEMENT DIMENSION CORRECTED BODY POSITION/POSTURE ACCORDING TO THE FOLLOWING EXPRESSIONS ON THE BASIS OF DISPLACEMENT DIMENSION CORRECTED BODY POSITION $Pb2_p$, DESIRED BODY POSITION Pb_p , DISPLACEMENT DIMENSION CORRECTED BODY POSTURE $\theta b2_p$, AND DESIRED BODY POSTURE θb_p AT LAST TIME $t - \Delta t$, AND DESIRED BODY POSITION Pb AND DESIRED BODY POSTURE θb AT CURRENT TIME t .

$$Pb2_s = Pb + (Pb2_p - Pb_p)$$

$$\theta b2_s = \theta b + (\theta b2_p - \theta b_p)$$

S406

DETERMINE MASS POINT POSITIONS AND POSTURES OF ARMS OF 2ND DISPLACEMENT DIMENSION CORRECTING MODEL ON THE BASIS OF CURRENT CANDIDATES ($Pb2_s$, $\theta b2_s$) AND DESIRED POSITIONS/POSTURES OF BOTH FEET AND DESIRED ARM POSTURES AT CURRENT TIME t .

S408

DETERMINE OVERALL CENTER-OF-GRAVITY ERROR Gc_err AND ANGULAR MOMENTUM PRODUCT ERROR L_err BETWEEN 1ST DISPLACEMENT DIMENSION CORRECTING MODEL AND 2ND DISPLACEMENT DIMENSION CORRECTING MODEL.

S410 yes

LEAVE REPETITION LOOP.

S412

S404 ARE Gc_err AND L_err WITHIN PERMISSIBLE RANGES?

∞

S414

DETERMINE A PLURALITY OF CANDIDATES ($Pb2_s + \Delta Pb_x$, $\theta b2_s$), ($Pb2_s + \Delta Pb_z$, $\theta b2_s$) AND ($Pb2_s$, $\theta b2_s + \Delta \theta b$) NEAR ($Pb2_s$, $\theta b2_s$), THEN USE THEM AS DISPLACEMENT DIMENSION CORRECTED BODY POSITION/POSTURE CANDIDATES TO DETERMINE OVERALL CENTER-OF-GRAVITY ERROR AND ANGULAR MOMENTUM PRODUCT ERROR AS DESCRIBED ABOVE.

S416

BASED ON OVERALL CENTER-OF-GRAVITY ERROR AND ANGULAR MOMENTUM PRODUCT ERROR ASSOCIATED WITH ($Pb2_s$, $\theta b2_s$) AND CANDIDATES IN THE VICINITY THEREOF, DETERMINE NEW DISPLACEMENT DIMENSION CORRECTED BODY POSITION/POSTURE CANDIDATES ($Pb2_s$, $\theta b2_s$) SO AS TO APPROXIMATE THE ERRORS TO ZERO.

S418

SUBSTITUTE CURRENT ($Pb2_s$, $\theta b2_s$) INTO DISPLACEMENT DIMENSION CORRECTED BODY POSITION/POSTURE ($Pb2$, $\theta b2$) AT CURRENT TIME t .

RETURN